Indiana Department of Environmental Management
Office of Water Quality
Wetlands Section

Publication Date:
September 7, 2010

Closing Date:
September 27, 2010

PUBLIC NOTICE

IDEM ID Number:
2010-182-02-BCB-A

Corps of Engineers ID Number:
LRE-2006-1020060

To all interested parties: This letter shall serve as a formal notice of the receipt of an application for **Section 401 Water Quality Certification** by the Indiana Department of Environmental Management (IDEM). The purpose of the notice is to inform the public of active applications submitted for water quality certification under Section 401 of the Clean Water Act (33 U.S.C. § 1341) and to solicit comments and information on any impacts to water quality related to the proposed project. IDEM will evaluate whether the project complies with Indiana's water quality standards as set forth at 327 IAC 2.

1. Applicant:
Mr. Max Shambaugh
Shambaugh & Son, L.P.
P.O. Box 1287
Fort Wayne, IN 46801

2. Agent:
Mr. Eric Ellingson
Earth Source, Inc.
14921 Hand Road
Fort Wayne, IN 46818

3. Project location: Section 36, Township 32 North, Range 12 East, Cedarville U.S.G.S. Quad, Allen County, St. Joseph (OH) 8 – Digit Hydrologic Unit Code (HUC), 04100003.
Take I-69 to Dupont Rd, travel north onto Tonkel Road to project on left (west) side.

4. Affected waterbody: 0.182 acre of a 0.182 acre emergent jurisdictional wetland and 0.32 acre of an unnamed pond.

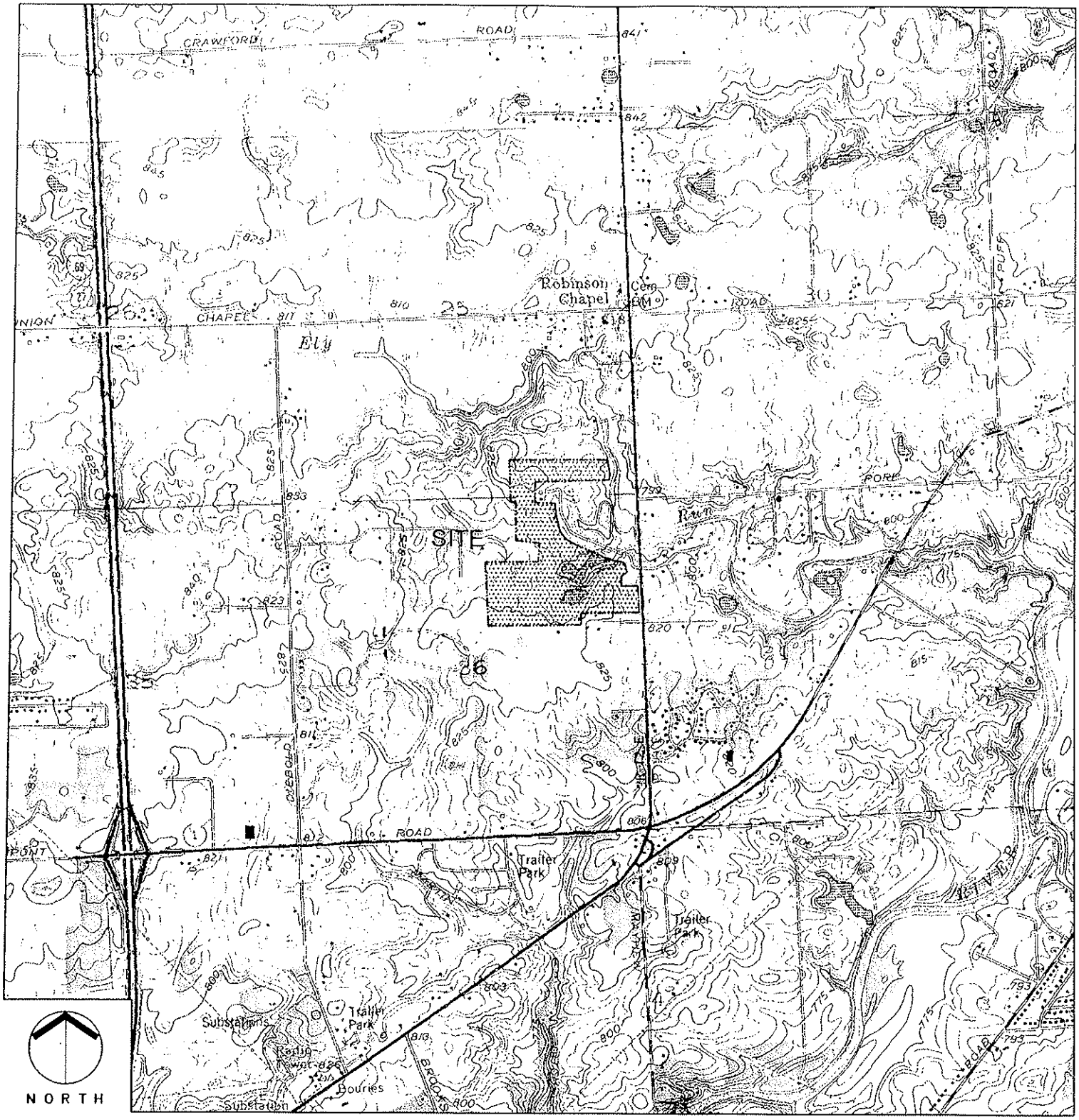
5. Project Description: The applicant is applying for an After-the-Fact Section 401 Water Quality Certification for placing 92 cubic yards (cys) of clean earthen fill into 0.092 acre of emergent jurisdictional wetland in 2006. Additionally, the applicant placed 72 cys of clean earthen fill into 0.09 acre of emergent jurisdictional wetland and 9,292 (cys) of clean earthen fill into 0.32 acre of an unnamed pond in 2010. The purpose of the activity was to construct two additional residential lots and a storm water outlet. To mitigate for the unauthorized impacts, the applicant proposes to construct onsite 0.37 acre of emergent wetland at a 2 to 1 ratio and 0.64 acre of open water. For additional plans and information, please visit the IDEM Public Notice webpage at http://www.in.gov/idem/6397.htm.

Comment period: Any person or entity who wishes to submit comments or information relevant to the aforementioned project may do so by the closing date noted above. Only comments or information related to water quality or potential impacts of the project on water quality can be considered by IDEM in the water quality certification review process.

Public Hearing: Any person may submit a written request that a public hearing be held to consider issues related to water quality in connection with the project detailed in this notice. The request for a hearing should be submitted within the comment period to be considered timely. The request should also state the reason for the public hearing as specifically as possible to assist IDEM in determining whether a public hearing is warranted.

Questions? Additional information may be obtained from Mr. Brad Baldwin, Project Manager, at 317-234-5647.
Please address all correspondence to the project manager and reference the IDEM project identification number listed on this notice. Indicate if you wish to receive a copy of IDEM's final decision. Written comments and inquiries may be forwarded to -

Indiana Department of Environmental Management
100 North Senate Avenue
MC65-42 WQS IGCN 1255
Indianapolis, Indiana 46204-2251
FAX: 317/232-8406



Project Name:	CEDAR SPRINGS
Agent:	Earth·Source Inc 14921 Hand Road, Fort Wayne, IN 46818 (260) 489-8511 Fax (260) 489-8607

PROJECT LOCATION MAP

0 2,000 FT 4,000 FT

Scale 1" = 2,000 FT

Applicant:

MR. MAX SHAMBAUGH
SHAMBAUGH & SON, L.P.
P.O. BOX 1287
FORT WAYNE, IN 46801

State: INDIANA		County: ALLEN
Township Name: PERRY		
Township: T32N	Range: R12E	Section: 36
Quadrangle: CEDARVILLE (IN)		
Latitude/Longitude (NAD 27): 41° 11' 25" N, 85° 04' 36" W		
Date: 4-23-2010		Attachment: C2

IMPACT A
SECTION I:
4.88 ACRES
0 002 ACRE IMPACTED
4 CUBIC YARDS OF RIPRAP
2006 PERMIT

IMPACT B
SECTION I:
4.88 ACRES
0.02 ACRE IMPACTED
16 CUBIC YARDS FILL
2006 PERMIT

IMPACT C
SECTION I:
4.88 ACRES
0.01 ACRE IMPACTED
8 CUBIC YARDS FILL
2006 PERMIT

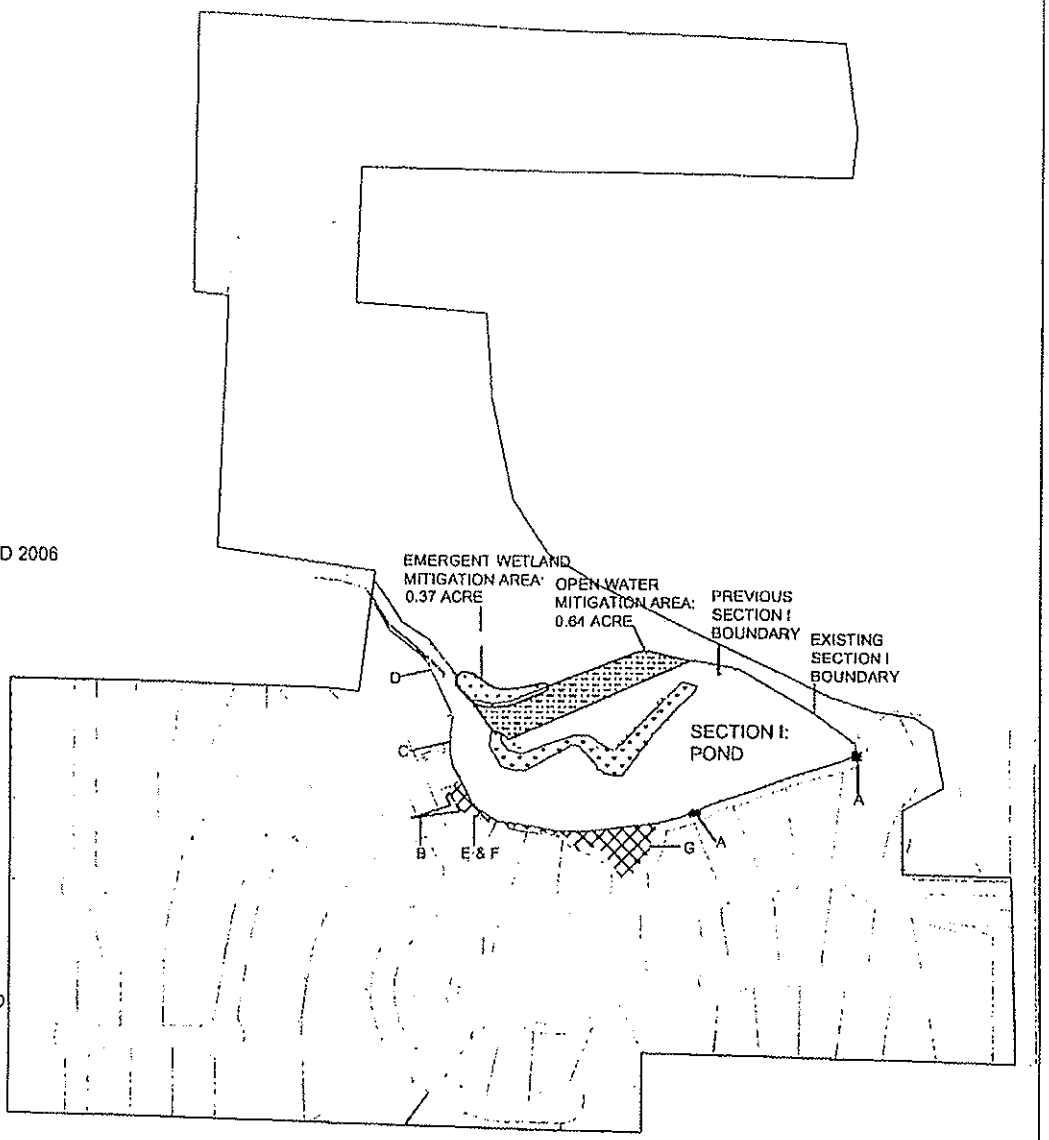
IMPACT D
SECTION I:
4.88 ACRES
0.06 ACRE PROPOSED IMPACT
64 CUBIC YARDS FILL
2006 PERMIT

WETLAND RESTORATION E
SECTION I:
4.88 ACRES
0.01 ACRE UNAUTHORIZED IMPACTED 2006
0.01 ACRE TO BE RESTORED 2006
16 CUBIC YARDS OF FILL
0.01 ACRE IMPACTED - 2010 PERMIT

IMPACT F
SECTION I:
4.88 ACRES
0.08 ACRE UNAUTHORIZED IMPACT
56 CUBIC YARDS OF FILL
2010 PERMIT

IMPACT G
SECTION I:
4.88 ACRES
0.32 ACRE UNAUTHORIZED IMPACT
9,292 CUBIC YARDS OF FILL
2010 PERMIT

MITIGATION:
0.37 ACRES OF EMERGENT WETLAND
0.64 ACRE OF OPEN WATER



NORTH

Project Name:
CEDAR SPRINGS

Agent:

Earth·Source Inc
14921 Hand Road, Fort Wayne, IN 46818
(260) 489-8511 Fax (260) 489-8607

OVERALL SITE PLAN

0 400' 800'
Scale 1" = 400'

Applicant:
MR. MAX SHAMBAUGH
SHAMBAUGH & SON, L.P.
P.O. BOX 1287
FORT WAYNE, IN 46801

State:	County:
INDIANA	ALLEN
Township Name: PERRY	
Township: T32N	Range: R12E	Section: 36
Quadrangle: CEDARVILLE (IN)	
Latitude/Longitude (NAD 27): 39° 18' 54" N, 87° 12' 51" W	
Date: 4-23-2010	Attachment: C8

EXECUTIVE SUMMARY

Mr. Shambaugh is applying for an after-the-fact 401/404 permit for the additional impact of 0.32-acre of open water, 0.08-acre of emergent wetland at Cedar Springs Subdivision. The applicant filled 0.32-acre of open water pond to create two (2) residential lots and moved the location of a storm water outlet pipe, which caused the unauthorized impact of 0.08-acre of emergent wetland. Mr. Shambaugh applied for 401/404 Regional General Permit in October 2006 for the total impact of 0.092-acre of waters of the United States and was to restore of 0.01-acre of emergent wetland impact. Since the applicant failed to restore the 0.01-acre of emergent wetland impact to fulfill the requirement of 2006 Regional General Permit, a permit was not issued by ACOE. The 0.01-acre of impact from the unrestored wetland and the 0.092-acre impact will also be accounted for in this permit application. Therefore, the total wetland impact is 0.182-acre of emergent wetland and 0.32-acre of open water pond. Mr. Shambaugh proposes to create 0.37-acre of emergent mitigation (2:1 ratio) and use 0.64 acre of the new pond (2:1 ratio) as mitigation for the impacts at Cedar Springs Subdivision.

Table 1: Wetland Impact and Compensatory Mitigation

Impact	Section	Permit Year	Impact	On-Site Ratio	Wetland Mitigation
A	Section I: Emergent	2006	0.002-acre	2:1	0.004-acre -emergent
B	Section I: Emergent	2006	0.02-acre	2:1	0.04-acre -emergent
C	Section I: Emergent	2006	0.01-acre	2:1	0.02-acre -emergent
D	Section I: Emergent	2006	0.06-acre	2:1	0.12-acre -emergent
E	Section I: Emergent	2010	0.01-acre	2:1	0.02-acre -emergent
F	Section I: Emergent	2010	0.08-acre	2:1	0.16-acre -emergent
G	Section I: Open Water	2010	0.32-acre	2:1	0.64-acre – open water
		Impact:	**0.502-acre**	**Mitigation:**	**0.37-acre (rounded up) of emergent wetland & 0.64-acre of open water**

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APPLICATION FOR REGIONAL GENERAL PERMIT

I. PROJECT INFORMATION

Applicant
Mr. Max Shambaugh
Shambaugh & Son, LLP
P.O. Box 1287
Fort Wayne, IN 46801
Voice (260) 487-7777

Agent
Eric P. Ellingson
Earth Source Incorporated
14921 Hand Road
Fort Wayne, Indiana 46818
Voice (260) 489-8511
Facsimile (260) 489-8607

II. PURPOSE OF PROJECT AND OVERVIEW OF ACTIVITES:

Cedar Spring Subdivision is located in Section 36 of Perry Township (T32N; R12E), Allen County, Indiana. Mr. Shambaugh is applying for an after-the-fact 401/404 permit for the additional impact of 0.32-acre of open water, 0.08-acre of emergent wetland at Cedar Springs Subdivision. The applicant filled 0.32-acre of open water pond to create two (2) residential lots and moved the location of a storm water outlet pipe, which caused the unauthorized impact of 0.08-acre of emergent wetland. Mr. Shambaugh applied for 401/404 Regional General Permit in October 2006 for the total impact of 0.092-acre of waters of the United States and was to restore of 0.01-acre of emergent wetland. Since the applicant failed to restore the 0.01-acre of emergent wetland to fulfill the requirement of 2006 Regional General Permit a permit was not issued by ACOE. The 0.01-acre of impact from the unrestored wetland and the 0.092-acre impact will also be accounted for in this permit application. Therefore, the total wetland impact is 0.182-acre of emergent wetland and 0.32-acre of open water pond.

Mr. Shambaugh proposes to create 0.37-acre of emergent wetland and 0.64-acre of the new pond as mitigation for the unauthorized impacts. The new pond area, totaling 1.36 acres, was excavated during 2008 using the one-step removal method, a non-regulated activity, and was connected to the existing pond (Section I). The new pond area was created as an aesthetic feature for the subdivision. The applicant proposes using 0.64-acre of the new pond area as mitigation for the 0.32-acre of open water impact on site. The applicant also proposes to create 0.37-acre of emergent wetland within the new pond to mitigate a 2:1 ratio for emergent wetland loss.

Any dredged material shall be deposited in a contained, upland disposal area to prevent sediment runoff to any waterbody. The applicant shall dispose of all dredged and excavated material according to the requirement of 329 IAC 10, governing Solid Waste Land Disposal

Facilities. Erosion control methods shall be installed prior to any soil disturbance to prevent soil from leaving the construction site.

Appropriate erosion control methods include, but are not limited to, straw bale barriers, silt fencing, erosion control blankets, phased construction sequencing, and/or earthen berms. Erosion control structures and devices shall be monitored and maintained regularly, especially after rain events, until all soils disturbed by construction activities have been permanently stabilized. The construction limits at the project site shall be clearly marked during construction.

III. SUMMARY OF ON-SITE WATER RESOURCE IMPACTS

Section I: Emergent Wetland Area

2006 After-the-Fact

Type of development:	Residential Development
Total proposed area of regulated impact:	0.092-acre
Total proposed fill:	92 cubic yards

The applicant placed approximately 4 cubic yards of riprap below wetland grade into 0.002 acre of Section I (Impact A). The fill was necessary to provide for bank stabilization for storm sewer outlet structures. The applicant placed approximately 16 cubic yards of clean earthen fill below wetland grade into 0.02 acre of Section I (Impact B). The fill was necessary to provide for the construction of a portion of one (1) interior road and associated right-of-way and portions of one (1) residential lot. The applicant placed approximately 8 cubic yards of clean earthen fill below wetland grade into 0.01 acre of Section I (Impact C). The fill was necessary to provide for the construction of a portion of one (1) storm sewer outlet. For the Phase II of the site development, the applicant proposes the placement of a rigid metal pipe (sized by engineer) within 90 linear feet and approximately 64 cubic yards of clean earthen fill below wetland grade into 0.06 acre of Section I (Impact D). The fill is necessary to provide for the construction of a portion of one (1) interior road and associated right-of-way.

2010 After-the-Fact

Type of development:	Residential Development
Total proposed area of regulated impact:	0.09-acre
Total proposed fill:	72 cubic yards

Mr. Shambaugh placed 72 cubic yards of clean earthen fill material below wetland grade of 0.09-acre of emergent wetland area of Section I (Impact E & F). The fill impact of 0.08-acre was necessary for the relocation of a storm water outlet. Mr. Shambaugh failed to restore the 0.01-acre of emergent wetland impact to fulfill the requirement of 2006 Regional General Permit, a permit was not issued by ACOE and the 0.01-acre of impact will be accounted for in this permit application.

Section I: Open Water Pond

Type of development:	Residential Development
Total proposed area of regulated impact:	0.32-acre
Total proposed fill:	9,292 cubic yards

Mr. Shambaugh placed 9,292 cubic yards of clean earthen fill material below the ordinary high water mark of 0.32-acre of the open water portion of Section I (Impact G). The fill impact was for the construction of 2 additional residential lots.

IV. WETLAND MITIGATION PLAN

PROJECT PURPOSE

Mr. Shambaugh proposes to create 0.37-acre of emergent wetland and use 0.64-acre of the new pond as mitigation for the unauthorized impacts. The new pond area, totaling 1.36 acres, was excavated during 2008 using the one-step removal method, a non-regulated activity, and was connected to the existing pond (Section I). The new pond area was created as an aesthetic feature for the subdivision. The applicant proposes using 0.64-acre of the new pond area as mitigation for the 0.32-acre of open water impact on site. The applicant also proposes to create 0.37-acre of emergent wetland along the perimeter of the new pond to mitigate a 2:1 ratio for emergent wetland loss.

WETLAND MITIGATION GOALS AND OBJECTIVES

The goal of the wetland mitigation is to create 0.37-acre of palustrine, emergent, semipermanently flooded (PEMF) system and use 0.64-acre of palustrine, open water, permanently flooded (POWH) as compensation for the wetland values and functions lost from the impact.

Creation of the mitigation wetlands will be accomplished through the establishment of wetland hydrology and hydrophytic vegetation to an area of non-hydric soil contiguous with the pond. The wetland is carefully designed to provide for the development of a seasonally flooded water regime, sustained by surface runoff from surrounding uplands and high water events within the pond. Native vegetation characteristic of emergent wetland will be seeded and within the emergent wetland mitigation area.

Upon establishment, the mitigation wetland is expected to provide a variety of wetland functions including increased food/fiber production for wildlife; increased permanent habitat and cover; increased contact, detention, and water treatment of surface flows; and increased soil stabilization.

Measurable objectives to be achieved include an increase in native habitat acreage and an increase in vegetative quality. Success of the mitigation project will be evaluated by

comparing the habitat and vegetative quality of the wetlands lost to those created. The proposed methods for quantitatively evaluating the success of the mitigation project are discussed in the Monitoring Plan.

BASELINE INFORMATION

Project Location. Wetland mitigation site is located at Cedar Spring in Section 36 of Allen Township (T36N; R12E) Allen County, Indiana. From Indianapolis, take I-69 North to Dupont Road. Turn left (north) onto Tonkel Road. Project site is on the left side (west) on Tonkel Road.

Ownership of Project Site. Mr. Max Shambaugh, Shambaugh & Son, LLP, P.O. Box 1287 Fort Wayne, IN 46801 will be responsible for all financial and management aspects of the mitigation project.

Historic and Current Land Use. The USGS 7.5-Minute topographic quadrangle for Cedarville, Indiana (1992) and 2008 aerial photograph were reviewed to determine the history of land use prior to site development on the proposed mitigation site. The topographic map depicts the subject property as agricultural field with a pond. 2008 aerial photography shows the newly excavated pond area, which is north of the existing pond.

Watershed and Surrounding Land Use. Regionally, the project is located in the USGS 8-digit St. Joseph Watershed HUC 04050001. The surrounding land to Cedar Spring is comprised a few residential homes to the south, agricultural to the north and east, forest with agricultural beyond to the west, and agricultural fields to south of the site.

CURRENT CONDITIONS OF IMPACTED SITE

The wetland mitigation will serve to compensate for proposed impacts to Section I. Section I is an open water pond. Section I is classified as a palustrine, open water, permanently Flooded, diked/Impounded (POWHh) system.

CURRENT CONDITIONS OF PROPOSED MITIGATION SITE

Mr. Shambaugh proposes to mitigate the impacts with a 2:1 ratio. A 0.37-acre mitigation wetland will be constructed adjacent to the pond. The proposed mitigation wetlands shall be designed to sustain palustrine, emergent, semipermanently seasonally flooded (PEMF) systems. Mr. Shambaugh purposes the use of 0.64-acre of the new pond as mitigation for the open water impact. The new pond area, totaling 1.36 acres, was excavated during 2008 using the one-step removal method, a non-regulated activity, and was connected to the existing pond (Section I). The new pond area was created as an aesthetic feature for the subdivision. The proposed mitigation of open water is a palustrine, open water, permanently flooded (POWH) systems.

Existing Soils. The proposed wetland mitigation area is listed by the Allen County Soil Survey as Morley silt loam, a moderately well-drained Typic Hapludalfs. The Morley series is not listed as a hydric soil by the *Hydric Soils of the United States* (USDA-SCS, 1991). The Morley series is characterized by high available moisture capacity; slow permeability; and moderate organic matter content.

Existing Hydrology. The proposed mitigation area is situated within moderately drained field and is adjacent to the pond. Primary and secondary wetland hydrology indicators are not currently present on the proposed mitigation area.

MITIGATION SITE SELECTION AND JUSTIFICATION

The mitigation site was selected base on its close proximity to the pond on site. Mr. Shambaugh proposes to create 0.37-acre of emergent wetland as compensation for impacts to Section I. Mr. Shambaugh proposes the use of 0.64-acre of the new pond as mitigation for the open water impact.

Table 2: Wetland Impact and Compensatory Mitigation

Section	Description	Impact	On-Site Ratio	Wetland Mitigation
Section I	Emergent Wetland	0.182-acre	2:1	0.37-acre
Section I	Open Water	0.32-acre	2:1	0.64-acre
	Impact:	**0.502-acre**	**Mitigation:**	**1.01-acre**

Values and Functions. The mitigation project will compensate for the values and functions of the impacted wetland through the creation of a quality wetland community. The wetland is carefully designed to provide for the development of a seasonally flooded water regime, sustained by surface runoff from surrounding uplands and high water events within the pond. Native vegetation characteristic of emergent wetland will be seeded on the mitigation sites.

Upon establishment, the mitigation wetland is expected to provide a variety of wetland functions including increased food/fiber production for wildlife; increased permanent habitat and cover; increased contact, detention, and water treatment of surface flows; and increased soil stabilization.

Proposed Hydrology. The creation of wetland shelf morphology along a portion of the pond will provide the foundation of a seasonally flooded water regime, sustained by surface runoff from surrounding uplands and high water events within the private pond.

Success and Sustainability. The rationale for success for this wetland mitigation project is based upon scientific research, careful design, adaptive management, and an in-depth monitoring program. The mitigation wetland is designed to ensure the long-term success of a functioning wetland system. The mitigation wetland is designed to emulate the surface grades of the adjacent wetland, suggesting the sustainability of a seasonally flooded water regime.

The mitigation area shall be monitor for development toward a stable wetland community both during construction and on an annual basis. An adaptive management plan will be implemented to address issues as they arise during the monitoring period.

MITIGATION WORK PLAN

Timing of Mitigation. Construction of the wetland mitigation will begin upon approval of this plan and will be consistent with the timeline established by the agencies. Mitigation construction will be concurrent with the construction of the residential development. The construction activities will proceed as follows:

1. Place/maintain all temporary silt fences.
2. Clear construction access to work site, minimizing all disturbances.
3. Excavate mitigation area to proposed grades.
4. Perform revegetation of the mitigation site.
5. Remove temporary silt fences after all disturbed areas have been successfully revegetated.
6. Install survey markers and/or protected wetland signage to clearly identify the boundaries of the mitigation wetland.

Grading Plan. Earthwork will be performed within the mitigation area to create surface grades consistent with the microtopography of emergent wetland fringe in order to sustain a seasonally flooded water regime.

Construction Methods. The construction limits at the project site shall be clearly marked before and during construction activities. Erosion control methods shall be installed prior to any soil disturbance to prevent soil from leaving the construction site. Any dredged material shall be deposited in a contained upland disposal area to prevent sediment runoff to any waterbody. All dredged and excavated material shall be disposed of according to the requirement of 329 IAC 10, governing Solid Waste Land Disposal Facilities. Erosion control structures and devices shall be monitored and maintained regularly, especially after rain events, until all soils disturbed by construction activities have been permanently stabilized.

The owner may choose to de-water the mitigation site prior to resuming earth-moving operations should the site be subject to flooding or ponding during the earthwork phase of the wetland mitigation construction. Prior to restoration seeding, the finished rough grades will be scarified to a depth of six (6) inches to loosen the planting bed.

Planting Plan. The compensatory wetland mitigation area will be comprised of an emergent wetland. The establishment of vegetation within the mitigation areas will consist of seeding herbaceous species. The 0.37-acre of the mitigation area will be seeded with a Midwestern Emergent Wetland seed mix.

Seeding Methods. Seeding will occur immediately, and without delay, following the completion and acceptance of the finished rough grades. In the event that inclement weather or unsuitable soil conditions delay seeding (allowing the establishment of undesirable noxious species), a limited program of site-specific herbicide application using Round-up/Rodeo brand herbicide will be requested. The herbicide shall be spot or wick applied only to select, undesirable noxious species to allow the planting schedule to resume according to the restoration plan.

In preparation for seeding, the contractor will prepare the seedbed by discing and/or culti-mulching the basin bottom and side slopes. The seed will be applied following seedbed preparation in late spring or early summer, until June 30th. The methods of seed application may include (in order of preference) drilling with a Rangeland-type grass seed drill; broadcasting by hand or dropped from a dropseeder followed by incorporation by culti-packing; or hydroseeding using a trace amount of fiber mulch in solution. Between July 1 and September 15, seed may be applied in the above manner provided that the site is irrigated by sprinkling to ensure proper germination and establishment. Between September 16 and freeze-up, seed may be applied as in the spring. After freeze-up, seed may only be applied by drilling with a Rangeland-type grass seed drill.

Seed Mixes.

Emergent Wetland Area Seed Mix:

Midwestern Wetland Basin Mix (WP4)
Approximate mix weight 38 lbs./acre

This mix is intended for sites where soil conditions are unstable and hydrologic conditions fluctuate irregularly. The mix is designed for application in sites with a high disturbance regime such as urban wetlands and detention basins that draw down frequently. This mix contains a large percentage of salt-tolerant, native species adapted to irregular water level fluctuations associated with urban storm water runoff.

Scientific Name	Common Name	Indicator Status	Habit
Graminoids:			
Carex frankii	Frank's Sedge	OBL	PNEGL
Carex granularis	Meadow Sedge	FACW+	PNGL
Carex lurida	Shallow Sedge	OBL	PNEGL
Carex shortiana	Short's Sedge	FACW+	PNGL
Carex stipata	Stalk Grain Sedge	OBL	PNGL
Carex tribuloides	Blunt Broom Sedge	FACW+	PNGL
Carex vulpinoidea	Fox Sedge	OBL	PNEGL
Eleocharis palustris	Creeping Spike Rush	OBL	PNEGL
Glyceria striata	Fowl Manna Grass	OBL	PNEG
Juncus effusus	Soft Rush	OBL	PNEGL
Leersia oryzoides	Rice Cut Grass	OBL	PNG
Panicum virgatum	Switch Grass	FAC+	PNG
Scirpus atrovirens	Dark Green Bulrush	OBL	PNEGL
Scirpus cyperinus	Woolgrass	OBL	PNEGL
Scirpus fluviatilis	River Bulrush	OBL	PNEGL
Scirpus pendulus	Drooping Bulrush	OBL	PNEGL
Scirpus validus	Softstem Bulrush	OBL	PNEGL
Forbs:			
Alisma subcordatum	Subcordata Water Plantain	OBL	PNEF
Asclepias incarnata	Swamp Milkweed	OBL	PNF
Bidens cernua	Nodding Beggar-Ticks	OBL	AIF
Helenium autumnale	Common Sneezeweed	FACW+	PNF

Ludwigia alternifolia	Brushy Seedbox	OBL	PNEF
Mimulus ringens	Alleghany Monkey Flower	OBL	PNF
Penthorum sedoides	Ditch Stonecrop	OBL	PNF
Sagittaria latifolia	Broad-Leaf Arrowhead	OBL	PNEF
Senna hebecarpa	Wild Senna	FACW	PNF
Sparganium eurycarpum	Giant Bur Reed	OBL	PNEF
Verbena hastata	Blue Vervain	FACW+	PNF
Vernonia fasiculata	Prairie Ironweed	FAC	PNF
Temporary Cover Grasses:			
Agrostis alba	Redtop	FACW	PIG
Agrostis alba palustris	Creeping Bentgrass	FACW	PNG
Avena sativa	Seed Oats	FACU*	-

Irrigation Plan. No irrigation system is planned. However, should seeding occur during the summer seeding window, the contractor should irrigate the mitigation area as needed to enhance seed germination and establishment. The contractor may remove excess water from the mitigation area, should conditions warrant, in order to provide acceptable working and/or growing conditions.

Planned Soils. The proposed wetland mitigation area is situated within both a non-hydric Morley silt loam soil unit. The existing topsoil is to be stripped and stockpiled for replacement to a depth of 6-9" inches throughout basin and side slopes once earthwork is complete. Any excess soil generated during excavation is to be placed in a contained, upland location at the applicant's direction.

SITE PROTECTION AND MAINTENANCE

Mr. Shambaugh is responsible for ensuring the long-term protection of the wetland mitigation site. Permanent signage will be posted depicting the wetland mitigation boundaries and the boundary of the adjacent existing wetland.

Site maintenance will be performed as identified through the adaptive management process to ensure the success of the compensatory wetland. Maintenance will begin following completion of the planting plan and will continue throughout the monitoring period as needed.

ADAPTIVE MANAGEMENT

To best achieve the established success criteria for the mitigation area, the need for management activities will be evaluated on an ongoing basis based on observations and data gathered by the wetland consultant during site monitoring visits. Given the dynamic nature of wetland systems, adaptive management is essential to address unforeseen issues and concerns as they arise. The monitoring contractor will be responsible for evaluating management needs, recommending corrective measures to the applicant, and documenting all such activities in the annual monitoring reports. The applicant will be responsible for arranging and financing the necessary management activities.

For the mitigation wetland to achieve the established success criteria, the necessary management activities may include, but are not limited to the ongoing eradication of invasive species (hand pulling, cutting or selective herbicide treatments); prescribed burning; modification of hydrology by altering grades and/or outlet structures; and the reseeding and/or replanting of vegetation.

FINANCIAL ASSURANCES

Mr. Max Shambaugh is responsible all mitigation construction, management, and monitoring costs on the project site.

PERFORMANCE STANDARDS

Success Criteria. The permittee shall ensure that the mitigation wetland meets all of the following success criteria for at least two (2) consecutive years:

a. The area of wetland established, as measured by wetland delineation must meet or exceed the area of wetland compensatory mitigation required.
b. Greater than 50% of the dominant vegetation species must have a wetland indicator of FAC- (i.e. Facultative) or wetter.
c. The hydrology at the mitigation wetland site must meet the wetland hydrology criteria contained in the United States Army Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1 (January, 1987).
d. The combined surface areal coverage of *Phalaris arundinacea* (reed canary grass) and *Typha spp.* (cattail) shall not exceed 15% of the mitigation wetland.
e. The mitigation wetland is free of the following exotic species: *Lythrum salicara* (purple loosestrife), *Phragmites australis* (common reed), and *Myriophyullum spicatum* (water milfoil).
f. Native plant species excluding *Typha spp.* (cattail) must have an areal cover of at least 70% of the wetland mitigation area.
g. No more than 10% of the surface area coverage of the mitigation wetland may be open water, bare ground, or a combination of the two. Open water and bare ground are defined as areas with less than 10 % areal vegetation cover.

V. MONITORING PLAN

The monitoring plan outlines the proposed methods and rationale for collecting consistent and accurate data from the mitigation area throughout the monitoring period. The monitoring plan establishes a process for gauging if and when the site has met the final success criteria established for the project. The execution of the monitoring plan also provides interim assessments of the mitigation site and identifies the need to implement corrective measures when needed.

To track the progress of mitigation success, an annual monitoring report will be prepared at the end of each growing season and submitted to IDEM by December 31 of that year. The report will assess the progress of the mitigation area towards achieving the established success criteria, document all management actions carried out, and recommend further management activities as needed.

Timing. The monitoring period shall begin the growing season following completion of the planting plan. The mitigation site shall be visited and monitored a minimum of two times annually. The first site visit will be conducted between April 15 and May 15, the growing season following completion of the planting plan. The purpose of the first site visit is to record soil and hydrologic conditions, and identify any management requirements for the current growing season. The second site visit will be conducted between July 15 and October 15. The second visit will include comprehensive vegetative sampling and a review of the functional status of the mitigation area.

Duration. The types of ecosystems or habitats created or restored by the mitigation project dictate the minimum length of the monitoring period. The entire mitigation site must be monitored at each field visit. For this mitigation project, 3 to 5 years of monitoring is recommended.

Sampling Methods. Non-biased sampling methods will be implemented to quantify success in three strategic areas: vegetation, hydrology, and hydric soil development. Permanent straight-line sampling transects will be established across each proposed ecosystem or habitat type. Transects will sufficiently represent all plant associations within the mitigation area. The exact location of each transect will be indicated on a map of the mitigation site provided with the monitoring report.

Soils. Representative soils will be sampled to a depth of twenty (20) inches at one permanent location along each transect. Soil matrix and mottle colors will be recorded using Munsell Soil Color Charts. Soil textures will be recorded for each soil horizon.

Hydrology. Evidence of hydrology will be documented including inundation, saturation, and signs of inundation and saturation as defined in TRY-87-1. In cases where signs of hydrology are not apparent or readily identified, shallow water monitoring wells may be installed.

Vegetation. Quantitative vegetative sampling will be performed along the permanent transects. Each transect will consist of regularly spaced 0.25-square meter quadrates. Data collected by line-intercept along transects will be used to compile a species inventory.

Data Analysis. Data collected from the vegetative sampling will be evaluated for Evenness and Species Richness using Simpson's Index of Diversity and the Floristic Quality Index. Acreage estimates of each habitat type and/or vegetative community found on the mitigation site will be provided. The total acreages of both targeted and "non-targeted" vegetative communities/habitats will be provided and the location of these communities will be indicated on a map of the mitigation site.

Photographs. Photographs will be taken along each transect from the same location annually. The location of these photographs will be indicated on a map of the mitigation site.

Wildlife Assessment. A brief visual inspection of wildlife use will be included in each annual report.

Annual Reports. Monitoring reports will be submitted to the ACOE and IDEM no later than December 31 of each year. The annual monitoring report submittal will not exceed 10 pages in length, which is based on the compliance with Regulatory Guidance Letter (RGL) 06-03. The format for submitting annual monitoring reports as required by RGL 06-03 is provided below:

Project Overview.

1. ACOE & IDEM Permit Number.
2. Name and contact information of permittee and consultant.
3. Name of party responsible for conducting the monitoring and the date(s) the inspection(s) were conducted.
4. A summary paragraph defining the purpose of the approved project, acreage and type of aquatic resources impacted, and mitigation acreage and type of aquatic resources authorized to compensate for the aquatic impacts.
5. Written description of the location and any identifiable landmarks of the compensatory mitigation project perimeter(s).
6. Directions to the mitigation site.
7. Dates compensatory mitigation commenced and/or was completed.
8. Short statement on whether performance standards are being met.
9. Dates of any recent corrective or maintenance activities conducted since the pervious report submission.
10. Specific recommendations for any additional corrective or remedial actions.

Requirements. A list of the monitoring requirements and performance standards, as specified in the approved mitigation plan and special conditions of the permit will be included. A table shall be used to compare the performance standards to the conditions and status of the developing mitigation site to evaluate whether the compensatory mitigation project is trending towards success or has successfully achieved the established performance standards.

Summary Data. Summary data will be provided to substantiate the success and/or potential challenges associated with the compensatory mitigation project. Photo documentation may be provided to support the findings and recommendations referenced in the monitoring report and to assist the Project Manager (PM) in assessing whether the compensatory mitigation project is successful for the monitoring period. Submitted photos will fit on a standard 8 ½ X11" piece of paper, be dated, and be labeled with the direction from which the photo was taken. The photograph sites will be identified on the appropriate maps.

Maps. Maps will be provided to show the location of the compensatory mitigation site relative to other landscape features. The locations of photographic reference points, transects, sampling data points, and/or other features pertinent to the mitigation plan, including observed habitat types will be indicated. In addition, the submitted maps will clearly demarcate the mitigation site perimeter, which will assist PMs in locating the mitigation area during subsequent site inspections. Each map or diagram will fit on a standard 8½ X11" piece of paper and include a legend.

Conclusion. A general statement will be included describing the conditions of the compensatory mitigation project site. If performance standards are not being met, a brief explanation of the difficulties and potential remedial actions proposed by the permittee, including a timetable will be provided. The ACOE will ultimately determine if the mitigation site is successful for a given monitoring period.

COMPLETION OF MITIGATION

When the required monitoring period has been fulfilled and the applicant believes that all of the mitigation goals and performance standards have been met, the applicant may submit a proposed final monitoring report to the agencies. To be released from monitoring, the applicant must demonstrate to the agencies that the success criteria specified in the Project Specific Conditions have been met for two (2) consecutive years within a five (5) year period, as supported by the annual monitoring reports. The final monitoring report will include a delineation of the mitigation wetlands, conducted on-site using the hydrology and vegetation parameters from TRY-87-1. The delineation report shall include data sheets, a survey, and a map illustrating the area (in acres) of all mitigation wetland boundaries. If agencies determine that the success criteria have not been met, then the applicant shall resume monitoring. If agencies confirm that the success criteria have been met, then the applicant may permanently discontinue monitoring after it receives written notification of this determination from agencies.

VI. SUMMARY OF ACRONYMS AND REFERENCES

Indicator Status Acronyms:

OBL (Obligate Wetland) Occur almost always in wetlands.
FACW (Facultative Wetland) Usually occur in wetlands.
FAC+ (Facultative) More likely to occur in wetlands than uplands.
FAC (Facultative) Likely to occur in wetlands or uplands
FAC- (Facultative) Less likely to occur in wetlands than uplands.
FACU (Facultative Upland) Usually occur in uplands.
UPL (Obligate Upland) Occur almost always in uplands.
N/I (No Indicator) Indicator status unavailable.

(*) Indicator based on source other than USDI-F&W BR:88 (26.3)

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